

flexible display to provide an enlarged viewing area. Further still, the method includes viewing an image in the enlarged viewing area. Yet further still, the method includes providing input to the handheld computer via a touch sensor having an enlarged sensing area associated with the flexible display.

[0012] Alternative exemplary embodiments relate to other features and combination of features as may be generally recited in the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The invention will become more fully understood from the following detailed description, in conjunction with the accompanying drawings, wherein like reference numerals refer to like elements, in which:

[0014] **FIG. 1** is a block diagram of a handheld computer and a detached, enlarged display assembly;

[0015] **FIG. 2** is an exemplary cross section of a display assembly depicting a display layer and a touch sensing layer;

[0016] **FIG. 3** is an exemplary depiction of the flexibility of the display and touch sensor of **FIG. 2**;

[0017] **FIG. 4** is an exemplary depiction of a foldable display such that the touch sensor layer associated with the display layer is foldable therewith;

[0018] **FIG. 5** is an exemplary depiction of an alternative embodiment of a display having a touch sensor layer underlying the display layer;

[0019] **FIG. 6** is an exemplary depiction of a foldable display of **FIG. 5** in a folded state;

[0020] **FIG. 7** is an exemplary depiction of a handheld computer having a display in a compact or stored state;

[0021] **FIG. 8** is a depiction of an exemplary display system that is folded out to provide a larger viewing area; and

[0022] **FIG. 9** is an exemplary depiction of a folded display in which the display has been unfolded to provide an enlarged display area.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0023] Referring to **FIG. 1**, a handheld computer **100** is depicted. Handheld computer **100** includes a housing **110** supporting a plurality of electronics therein and having, in an exemplary embodiment a plurality of input buttons or devices **120**. Supported by housing **110** is a coupler **130**. Coupler **130** may provide an apparatus or device configured to attach a display assembly thereto. Further, coupler **130** may include contacts which provide electronic coupling between handheld computer **100** and a detachable display, such as detachable display **140**.

[0024] Detachable display **140** is in an exemplary embodiment, an expandable display and includes a coupler **155** configured to couple to coupler **130** of handheld computer **100**. Further, display **140** includes a microprocessor **150**, a memory **160**, a power source **170**, and a transceiver **180**. When detached from handheld computer **100**, display **140** may be expanded in the configuration depicted having a display area much larger than the footprint of handheld computer **100**.

[0025] Display **140** may be a flexible display, a foldable display, a rollable display, or any other type of expandable or flexible displays. The flexible display may be made from any of a variety of applicable display technologies such as, but not limited to a variety of bistable displays, such as, but not limited to cholesteric, electro-phoretic, gyricon, smectic C ferro-electric, zenith bistable (ZBD), APD™ from Citala Ltd., elnk technologies from elnk Corporation, and other types of displays which may be configured in a flexible and/or foldable form.

[0026] Referring now to **FIG. 2**, an exemplary cross sectional view of display **140** is depicted. Display **140** includes a display layer **200** that may be any type of bistable display or any other type of flexible and/or foldable displays, including displays which may include hinged sections. Overlying display layer **200** is a digitizer or touch sensor layer **210**. In an exemplary embodiment, touch sensor layer **210** is adhered to, coupled to, or associated with layer **200**. As depicted, touch sensor layer **210** may be a flexible touch sensor layer that is transparent so that a viewer can view display layer **200** through touch sensor layer **210**. Such flexible touch sensor layers may include, but are not limited to electrodag coating layers which form transparent conductors having flexibility. As depicted in **FIG. 3**, touch sensor layer **210** is a flexible layer that flexes with display layer **200**. In another exemplary embodiment depicted in **FIG. 4**, touch sensor layer **210** is foldable when display layer **200** is folded.

[0027] Referring now to **FIG. 5**, an alternative embodiment of a display **500** is depicted. Display **500** includes a display layer **510** which overlays a touch sensitive layer **520**. Layer **520** may be any of a variety of touch sensing technologies such as, but not limited to an electrotexile layer. Electrotexile layer **520** is an alternative form of digitizer in which pressure on layer **510** is communicated through layer **510** to compress a small portion of layer **520**. As layer **520** is compressed, the resistivity of the area that is compressed is changed and that change is sensed. Accordingly, the location of the compression may be determined. Referring now to **FIG. 6**, display **500** is depicted as being folded whereby display layer **510** is folded over electrotexile or touch sensitive layer **520**.

[0028] Referring now to **FIG. 7**, an exemplary handheld computer **700** is depicted. Handheld computer **700** includes a foldable and/or expandable display screen **710**. In the state depicted in **FIG. 7**, display screen **710** may be used to view information in a folded or compact state as depicted in **FIG. 7**. In an exemplary embodiment, display **710** may be unfolded as depicted in **FIG. 8**. Display **710** may, in an exemplary embodiment include a plurality of folded sections each having the ability to display information thereon. In one exemplary embodiment, display **710** may have a left hand section **712** a right hand section **714** and a center section **716**. Information may be displayed on any and all of sections **712**, **716** and **714**. Further, sections **712**, **714**, and **716** may be configured in the manner shown or may be configured in a flattened configuration and may include supporting structure associated therewith. Further still, folded sections **712**, **714**, and **716** may be separated by hinges, folds, pleats, scores, etc.

[0029] In another exemplary embodiment depicted in **FIG. 9**, a handheld computer **900** is depicted with a display